

Work Order ID 152976***152976***

Page 1

Monday, November 07, 2016 4:07:37 PM

Item ID: D3774-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Seat Bottom, LH/RH

Start Date: 10/31/2016 Start Qty: 2.00

2

Cust Item ID:

Required Date: 11/7/2016 Req'd Qty: 2.00

2

Customer:

Reference:

DAS

Approvals:

Process Plan:

21
9-89

Date: NOV 09 2016

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3774

Rev B

100

0.00

100

HAND FINISHING THERMOFORMING

Thermoform

Memo

0.03

Thermoforming Machine

Set up machine program D3774-1 Set up clamping frame as per folio

DAS
07
9-89

16/11/30

110

0.00

110

HAND FINISHING THERMOFORMING

Thermoform

Memo

0.04

Thermoforming Machine

Cut Blanks

DAS
07
9-89

16/11/30

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : _____									

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		OTHER : ☐							

Work Order ID 152976

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152976

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Item ID: D3774-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Seat Bottom, LH/RH
Start Date: 10/31/2016 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 11/7/2016 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 *140* Thermoform Thermoforming Machine	HAND FINISHING THERMOFORMING Memo Trim to Finished Dimensions	0.00 0.14				<u>3</u>			DAS 07 9-89 16/12/01
150 *150* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo 1) Check dimensions to ensure conformity to drawing tolerances.	0.00 0.00				<u>3</u>			DAS 07 9-89 16/12/01
160 *160* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.01				<u>③</u>	<u>16-12-01</u>		DAS 9 9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
240 TO 08-0 240 TO 08-0									
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

Work Order ID 152976***152976***

Page 4

Monday, November 07, 2016 4:07:37 PM

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Revision ID: Stop ***NS2***
Item Name: Seat Bottom, LH/RH
Start Date: 10/31/2016 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 11/7/2016 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	Identify as per dwg & Stock Location: <u>51250</u>	0.00							
170									
Packaging	Memo	0.00				3	DAS 6 9-89	DEC 02 2016	
Packaging									
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.03					DAS 21 9-89	DEC 02 2016	
Quality Control									
							DAS 21 9-89	DEC 02 2016	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Picklist Print

Monday, November 07, 2016 4:07:37 PM

Page 1

Work Order ID: 152976

152976

Parent Item: D3774-1

D3774-1

Parent Item Name: Seat Bottom, LH/RH

Start Date: 10/31/2016

Required Date: 11/7/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A New Issue 08.06.04 DL verified by:DD
IPP REV. B Dwg. Update 08.08.19 DL
Add Step 105 Dry Material 10/04/21 DL

IPP Rev. C

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MLEXS.125-F60029-04		Purchased	No			110	sf	1,385.302	10.667	25.09882			DAS 07 9-89

MI FXS 125-F60029-04

GE PLASTICS LEXAN SHEET (DARK GREY)

Location

Loc Qty

Loc Code

MAT018

1385.302353

m135074

1385.30235

35.76 sq ft.

16/11/30.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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DART AEROSPACE LTD		Work Order: 152976
Description: Seat Bottom		Part Number: D3774-1
Inspection Dwg: D3774 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

Measured by: DAS 07 9-89	Date: 14/11/80
---------------------------------	-----------------------

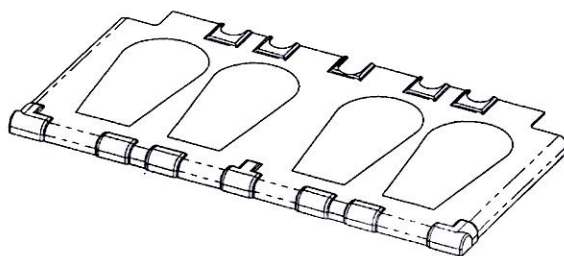
TRIMMING SECTION

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.3	+/-0.100	1.3"	✓			
33.9	+/-0.100	33.8"	✓			
17.4	+/-0.100	17.5"	✓			
0.085	Min	0.097"	✓			
0.100	Min	0.112"	✓			
0.100	Min	0.120"	✓			
0.100	Min	0.111"	✓			
0.100	Min	0.107"	✓			

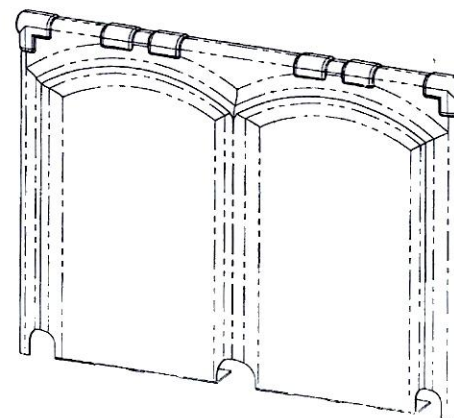
Measured by: DAS 07 9-89	Date: 16/12/01
Audited by: 9 9-89	Date: 16-12-08
Prototype Approval:	Date:

Rev	Date	Change	Revised by	Approved
A	08.09.04	New Issue	KJ/DL	

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 152976 MJS
 16-11-09



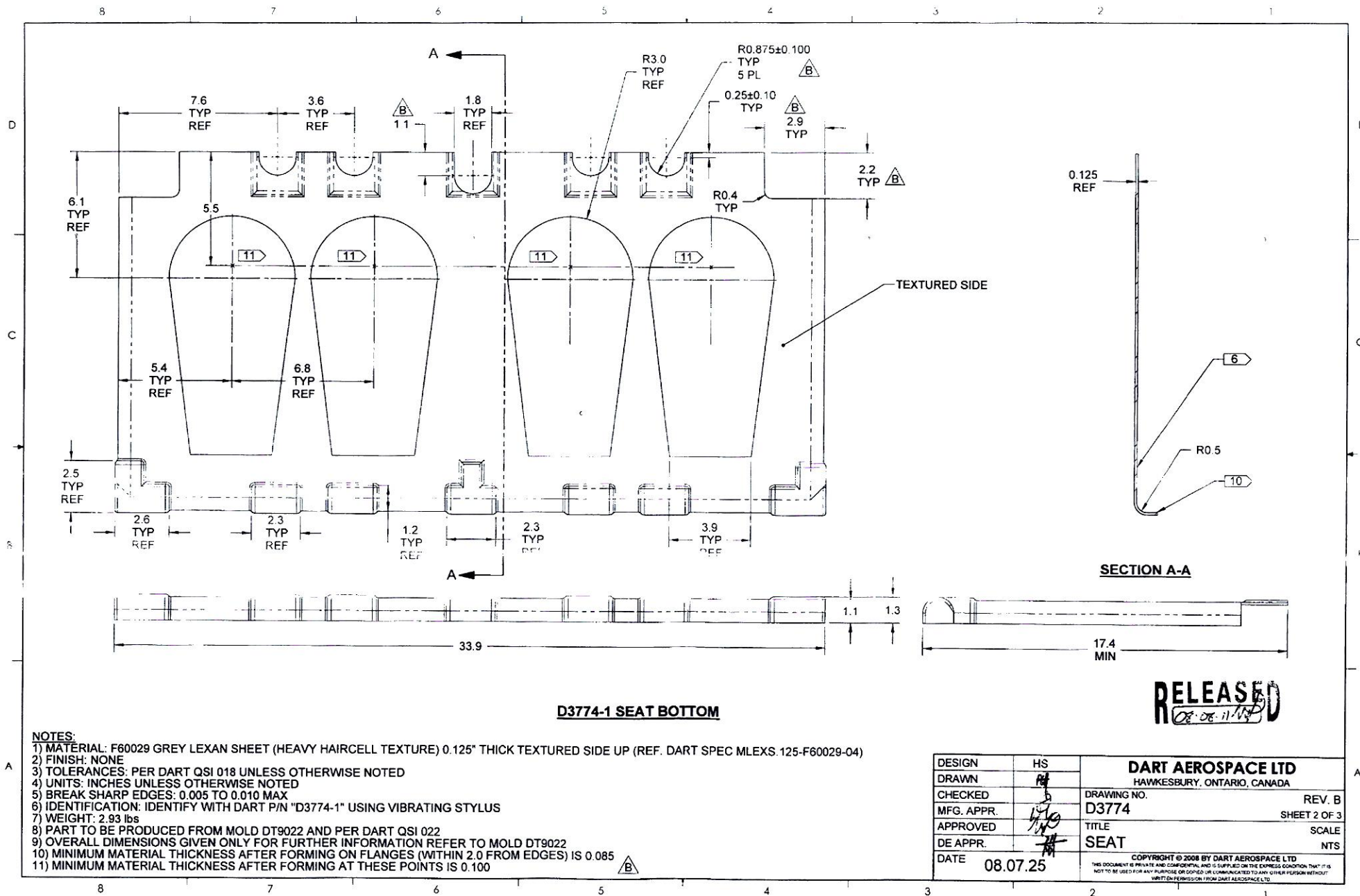
D3774-1 SEAT BOTTOM



D3774-3 SEAT BACK

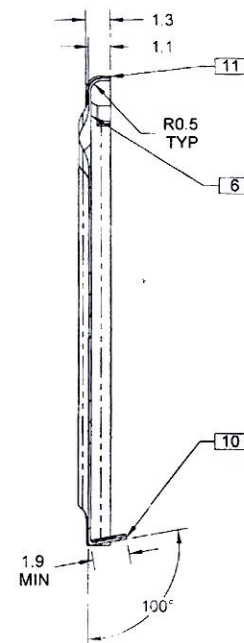
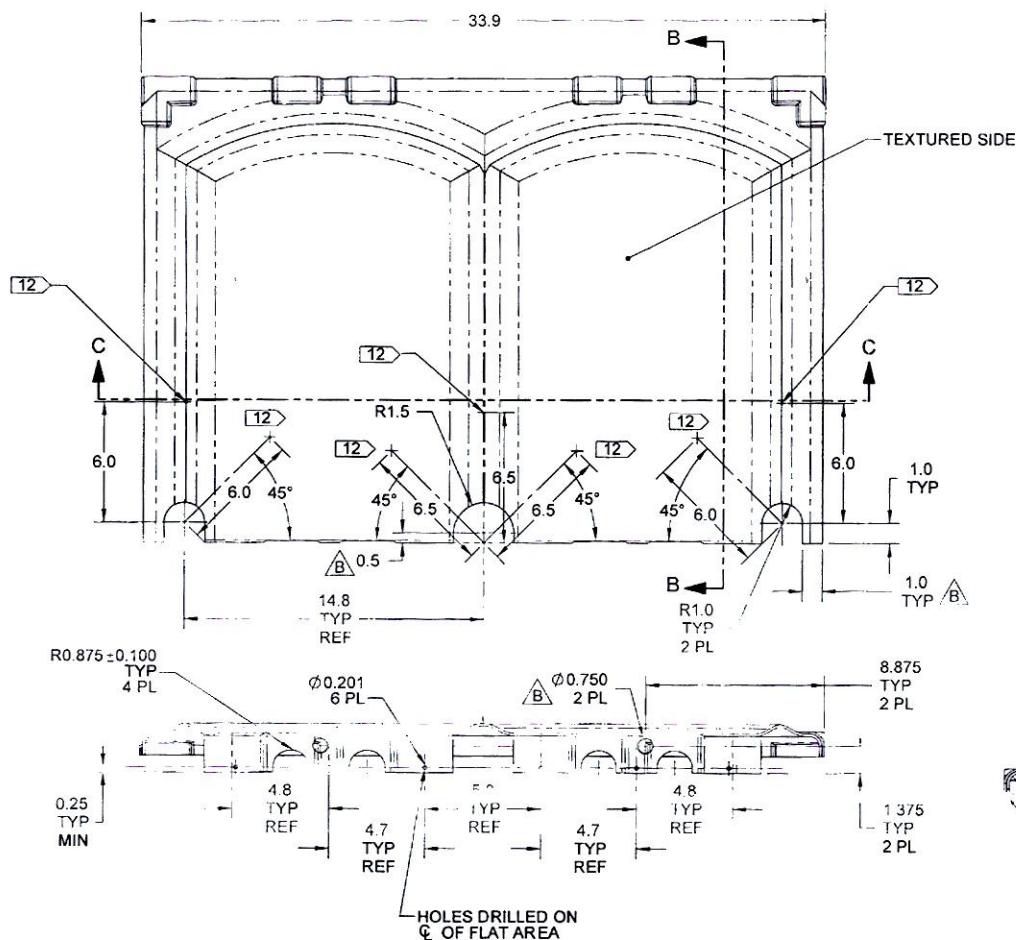
RELEASED
 08-08-11-11

B	UPDATE CUTOUT DIMENSIONS (ZN D4-2, D6-2, C4-3, C7-3); UPDATE MINIMUM THICKNESS (ZN A5-2, A5-3); ADD HOLES ON D3774-3 (ZN B6-3) REASON: MANUFACTURING CAPABILITIES		PH	08.07.25
A	NEW ISSUE		HS	08.06.23
REV.	DESCRIPTION		BY	DATE
DESIGN	HS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
DRAWN	PH			
CHECKED	AS	DRAWING NO.	REV. B	
MFG. APPR.	AS	D3774	SHEET 1 OF 3	
APPROVED	AS	TITLE	SCALE	
DE APPR.	AS	SEAT	NTS	
DATE	08.07.25		COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	



DESIGN	HS	DART AEROSPACE LTD	
DRAWN	HS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	HS	DRAWING NO.	REV. B
MFG. APPR.	HS	D3774	SHEET 2 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	HS	SEAT	NTS
DATE	08.07.25	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
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8 7 6 5 4 3 2 1



SECTION B-B



SECTION C-C

D3774-3 SEAT BACK

NOTES:

- 1) MATERIAL: F60029 GREY LEXAN SHEET (HEAVY HAIRCELL TEXTURE) 0.125" THICK TEXTURED SIDE UP (REF. DART SPEC MLEXS.125-F60029-04)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3774-3" USING VIBRATING STYLUS
- 7) WEIGHT: 4.82 lbs
- 8) PART TO BE PRODUCED FROM MOLD DT9023 AND PER DART QSI 022
- 9) OVERALL DIMENSIONS GIVEN ONLY FOR FURTHER INFORMATION REFER TO MOLD DT9023
- 10) MINIMUM MATERIAL THICKNESS AFTER FORMING ON BOTTOM FLANGE IS 0.065
- 11) MINIMUM MATERIAL THICKNESS AFTER FORMING FLANGES (WITHIN 2.0 FROM EDGES) IS 0.085
- 12) MINIMUM MATERIAL THICKNESS AFTER FORMING AT THESE POINTS IS 0.100

RELEASED
08-07-25

DESIGN	HS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	PE		
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D3774	SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		SEAT	NTS
DATE	08.07.25	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

8 7 6 5 4 3 2 1